

[A METHOD FOR CONSIDERING HIERARCHICAL PREEMPTIVE DEMAND PRIORITIES IN A SUPPLY CHAIN OPTIMIZATION MODEL]

Abstract

The invention comprises a method for achieving consideration of preemptive priorities within a supply chain optimization model. More specifically, the invention provides a method of allocating resources to a hierarchy of demand priorities in a linear programming production planning system. In particular, the invention aggregates the demand priorities into different priority groups and allocates the resources to the highest priority group of demand priorities using a first linear programming model. Next, the invention allocates remaining resources to the next highest priority group of demand priorities using a second linear programming model. The second linear programming model uses results from the first linear programming model. The invention continues this process by iteratively repeating the process of allocating remaining resources to the remaining groups of demand priorities, in or-

der of priority. The system and method were employed to integrate the consideration of preemptive prioritization of customer demands with an advanced planning system for optimizing established planning objectives (e.g. customer service, short lead times, low inventory, and prioritized allocation of supply and capacity) to compute a feasible production plan for the division.